National Security Agency/Central Security Service Comments (U)

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NATIONAL SECURITY AGENCY
CENTRAL SECURITY SERVICE
FORT GEORGE G. MEADE MARYLAND 20755-6000

13 August 2004

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE
ATTN: Deputy Assistant Inspector General for Intelligence Audits

SUBJECT: (U) Audit of the Requirements for the TRAILBLAZER and THINTHREAD Systems, dated June 18, 2004 (Project No. D2003AL-0100)

(U//FOUO) Thank you for the opportunity to review and comment on the referenced draft report. Consolidated management comments from our Signals Intelligence Directorate (SID), Acquisition Organization (DA) and Information Technology Infrastructure Services Organization (ITIS) are enclosed. In addition, per your request, a security classification review of the draft report is enclosed. If you have any questions or need additional information, please contact [redacted] [redacted]

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[redacted]

Deputy Chief of Staff

Encl:
a/s

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Derived From: NSA/CSSM 123-2
Dated 24 Feb 1998
Declassify On: X1

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(U) Audit of the Requirements for the TRAILBLAZER and THINTHREAD Systems

(U//~~FOUO~~) Project No. D2003AL-0100

~~(C)~~ This paper contains responses to recommendations made by the DoD OIG Audit of the Requirements for the TRAILBLAZER and THINTHREAD Systems (Project No. D2003AL-0100). It also includes discussion of key comments from the OIG report that NSA feels obligated to address.

~~(S//SI)~~ A significant point of departure among OIG Report assertions and NSA understanding, reflected within NSA's responses below, concerns the validity of using THINTHREAD as the Agency's Digital Network Exploitation (DNE) system. NSA understands that THINTHREAD does not contain the functionality or capability maturity to be the Intelligence Community's DNE system -, and it does not need to be. [redacted] is the Community's DNE system: it contains the depth and breadth of capabilities to exploit all known DNE targets (see Annex A), it uses state-of-the-art technologies (both in hardware and software), and it supports itself with [redacted] program management and systems engineering. THINTHREAD's best-of-breed capabilities are integrated into [redacted] valuing THINTHREAD's contribution to DNE and capitalizing on [redacted] programmatic and systems engineering maturity. Any assertion that THINTHREAD might be used to "replace" [redacted] exposes a significant misunderstanding of the situation.

~~(C)~~ Although NSA will agree to conduct an independent assessment of TRAILBLAZER and THINTHREAD, we believe that it will validate all of the assertions made in our responses to the OIG recommendations. Furthermore, we do not agree with the original Hot Line complaint that fraud, waste, and abuse occurred during the THINTHREAD/[redacted]TRAILBLAZER decision process, which was conducted in an open fashion to provide the best benefit for Agency mission and customers. More importantly, there has been no evidence documented during this OIG investigation that supports that complaint.

(C) The world's most advanced cryptologic experts, who are resident at NSA, have assessed THINTHREAD and [redacted] and are confident in the approach taken. With mission experience and training unique to NSA, these experts are best suited to make an assessment of the nation's cryptologic needs.

DRV FM: NSA/CSSM 123-2
Dated: 24 Feb 98
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(U//~~FOUO~~) Project No. D2003AL-0100

~~(S/SI)~~ DoD OIG Recommendation A.1: Deploy THINTHREAD as the interim capability digital network exploitation system.

(U) NSA Response: Nonconcur

~~(S)~~ *THINTHREAD capabilities are already deployed within NSA's processing, exploitation, analysis and production programs, as a result of previous Congressional direction, sound systems engineering practices, and common sense. It would be detrimental to NSA's mission to remove non-THINTHREAD capabilities from the current digital network exploitation architecture.*

(~~S//SI~~) "[redacted] and THINTHREAD Technical Review," written by [redacted] in February 2001, recommended adopting THINTHREAD's [redacted] and THINTHREAD's [redacted] NSA agreed and leveraged TRAILBLAZER activity to integrate [redacted]

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(~~S//SI~~) In FY2002 Congress directed NSA to deploy THINTHREAD to [redacted] sites. NSA complied with this directive (see Annex B – FY2002 THINTHREAD Deployments.).

[redacted]

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[redacted]

~~(C)~~ NSA recommends that the following items be highlighted within the OIG Project Report:

- NSA cooperates with and responds to Congress;
- THINTHREAD capability is valued by NSA;
- THINTHREAD capability is integrated within NSA's processing services;
- THINTHREAD does not possess the breadth and depth of services required by the Intelligence Community;
- THINTHREAD does not need to possess the breadth and depth of services required by the Intelligence Community because its overarching program, [redacted], does; and,
- Subordinating [redacted] to THINTHREAD would be detrimental to Intelligence Community requirements.

(U) **Target Date of Completion:** Complete.

[redacted]

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Final Report Reference

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(U//FOUO) Project No. D2003AL-0100

(S//SI) DoD OIG Recommendation A.2: Use a complementary approach with [redacted] and THINTHREAD in the collection sites, where required, until THINTHREAD is fully enhanced and extended to handle [redacted]

Revised pg. 25

(U) NSA Response: Nonconcur

[redacted]

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(U//~~FOUO~~) Project No. D2003AL-0160

~~(TS//SI)~~ The OIG Report omits an absolutely critical element: all THINTHREAD

[redacted]

~~(C)~~ The OIG Report omits another critical element: "fully enhanced and extended THINTHREAD" is not defined. NSA believes that a "fully enhanced and extended THINTHREAD" that is engineered in concert with NSA's corporate strategy will be

[redacted]

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(S) NSA is convinced that THINTHREAD does not have the potential to be its sole DNE processing system. THINTHREAD provides the greatest value to the SIGINT system and to the Analyst by remaining integrated within [redacted] Further, NSA believes that the scope, cost and risk of migrating from [redacted] to THINTHREAD are not characterized well enough to supplant existing, corporate SIGINT strategy. In short:

- (C) The cost to produce "fully enhanced and extended" THINTHREAD, particularly in terms of level-of-effort and skill availability, is not known but certainly not trivial;
- (S) The cost of modifying the rest of the SIGINT System, as well as impact to other parties' systems, to conform to THINTHREAD operations is not known but certainly not trivial;
- (C) The cost to support multiple platforms without impacting mission throughout a migration to THINTHREAD is not known but certainly not trivial;
- (S) The achievability, cost and impact of retraining the entire Intelligence Community's analysts to use THINTHREAD while maintaining mission is not known but certainly not trivial; and,
- (S) The resultant THINTHREAD, once built using NSA's corporate strategy, is not likely to be significantly different from the current capability, which is embodied within [redacted]

(U) **Target Date of Completion:** Complete.

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(U//~~FOUO~~) Project No. D2003AL-0100

(~~C~~) DoD OIG Recommendation A.3: Develop a formal classroom training course for the entire THINTHREAD system, [redacted]

(U) NSA Response: Concur

(~~C~~) NSA agrees with an underlying report theme: that THINTHREAD's concept of operation represents a divergent method from that used by today's Intelligence Community. THINTHREAD components successfully integrated into the SIGINT System, however, are supported just like all others, complete with comprehensive training.

(~~C~~) NSA understands the critical role training plays in successfully achieving its mission and is committed to producing training materials for each of its subsystems. NSA started creating training and operation materials for THINTHREAD components when integration activities started in November 2002. By April 2003, NSA had Data Item Description DI-ALSS-81523A-guided courseware for THINTHREAD that is continually updated and relied on for analyst and operator training to this day. (Current courseware is more than 350 pages and is not included within this document. However, copy will be presented if requested.)

(U) Target Date of Completion: Complete.

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(U//~~FOUO~~) Project No. D2003AL-0100

~~(C)~~ DoD OIG Recommendation B.1: Designate a team to assess the ability of THINTHREAD or its technologies as a long-term solution to meet the operational requirement of the TRAILBLAZER Technology Demonstration Platform. Revised p.35

(U) NSA **Response:** Concur, with comments

~~(C)~~ TRAILBLAZER welcomes an open review of THINTHREAD's 2001 end-to-end architecture to meet the requirements of the TRAILBLAZER Technology Demonstration Platform (TDP) because we believe that NSA's current strategy is valid and will be revalidated. The Program Executive Office (PEO) is taking the lead in establishing an independent review team for performing this assessment, with the intention that its results will be completed in time for inclusion into the Analysis of Alternatives and other Milestone B documentation. However, the performance of this additional study will have an impact on both the cost and schedule for Milestone B. PEO and TRAILBLAZER will estimate the cost/schedule impacts after receiving estimates from the review team and will decide at that time whether to respond with a Final Concurrence to these recommendations.

(U//~~FOUO~~) At this time, it is necessary to address some misconceptions in the DoD OIG's Executive Summary and Draft Report, as follows:

1. ~~(S//SI)~~ First, NSA does not agree with the DoD OIG's assessment that THINTHREAD represents "a better technological and more affordable solution for digital network exploitation than the solution being developed by NSA." In fact, there are significant differences between THINTHREAD and TRAILBLAZER's missions.

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[redacted]

(C) THINTHREAD's end-to-end architecture does not adequately meet the operational requirements for TRAILBLAZER's TDP, with major mismatches or deficits in all key areas:

- (S//SI) Scope of DNE mission requirements addressed: While THINTHREAD is a focused operational implementation, the TDP effort is focused on a more reusable industry standard framework. Thus, the TDP framework can extend operational capabilities beyond the implementation of THINTHREAD. In the long run, the TDP should be able to integrate [redacted] services to support a much broader set of DNI requirements than those performed by THINTHREAD.

- (C) End-to-End Framework based on industry standards: The TDP will provide a commercial, extensible, and service-based "plug and play" framework. Though THINTHREAD does employ some COTS development products and technologies, that employment is at a lower level; overall, THINTHREAD resides on a custom-developed framework.

- (C) Knowledge Management and Discovery: TDP includes major development efforts to transform NSA's databases and provide a state-of-the-art [redacted]

- (C) Information Assurance: TDP has a significant Information Assurance effort, to ensure [redacted]

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THINTHREAD does not address information assurance issues. This limits the extent to which THINTHREAD could be deployed and certified.

- (C) Large-scale Enterprise Integration: The TDP will begin the process of [redacted] THINTHREAD does not address [redacted] THINTHREAD also does not address the [redacted] designed into TDP.

- ~~(C)~~ SIGINT Architecture and Documentation: TRAILBLAZER and TDP have invested considerable effort to build a SIGINT architecture that is consistent with current DoD emphasis on open architecture and scalability, that applies DoD/commercial/NSA standards, and that is documented in DoD Architecture Framework (DoDAF) architecture views. THINTHREAD's architecture and acquisition process was not consistent with DoD 5000.2 guidelines, and the program exhibited shortcomings that constituted "a serious risk to successful deployment," according to the March 25, 2002 Technology, Test, and Evaluation (TTE) Assessment mentioned on pages 20-21 of the OIG Report and quoted extensively in the OIG's Appendix G. This is especially critical documentation, given the emphasis on Horizontal Integration and the DoD Global Grid evolution.

- [redacted] TDP personnel and the development contractor also have identified new work roles and reached out to NSA's education & training, human resources, and user communities to prepare NSA and the Service Cryptologic Elements to operate, maintain, and use the new TRAILBLAZER-provided system and the analytic tools hosted on it. THINTHREAD does not address process/workforce transformation, as mentioned by the TTE Report quoted on page 71 of the OIG's Appendix G.

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2. ~~(S//SI)~~ The Executive Summary's assertion that NSA "disregarded solutions to urgent national security needs" is not accurate. THINTHREAD was deployed to [redacted] locations, as mentioned in the OIG report, in this paper's response to Recommendation A.1., and in our Annex B. NSA integrated best-of-breed THINTHREAD services into its processing systems. Annex A, [redacted] Capabilities, clearly indicates the integration of THINTHREAD and other capabilities into the Agency's [redacted] system. In April 2001, TRAILBLAZER also conducted an informal comparison of

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(U//~~FOUO~~) Project No. D2003AL-0100
THINTHREAD and the TRAILBLAZER [redacted]

[redacted]

3. ~~(C)~~ The OIG Report's citation of the NTA Study's recommendation to support adoption of THINTHREAD also must be clarified. This Study did not recommend THINTHREAD as a long-term solution, but rather as an interim capability prototype alternative to the [redacted]

4. ~~(C)~~ Although the Executive Summary indicated that TRAILBLAZER excluded THINTHREAD from consideration as an alternative framework, it should be pointed out that documentation on both THINTHREAD and the [redacted] was provided to bidders for the Concept Development Phase. This fact is documented in the December 2001 Follow Up Report to the NTA's NSA Modernization Study (p. 13). However, none of the competing contractors chose to use THINTHREAD in their proposals, which is why this system was not included originally in the Analysis of Alternatives.

(U//~~FOUO~~) **Target Date of completion:** Milestone B is currently scheduled for December 2004.

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(U//FOUO) Project No. D2003AL-0100

(U//FOUO) DoD OIG Recommendation B.2: Provide the results of the external assessment to the TRAILBLAZER Technology Demonstration Platform Milestone Decision Authority for use in making the Milestone B decision.

(U) NSA Response: Concur

(U//FOUO) As mentioned in the response to Recommendation B.1, the PEO and TRAILBLAZER intend to provide the results of the independent assessment to the TRAILBLAZER Milestone Decision Authority (MDA) for use in making the Milestone B decision. These results will also be sent to the DoD IG, the NSA IG, and NSA's Office of General Counsel.

(U//FOUO) It should also be noted that TRAILBLAZER has long-established plans for external assessment of the TDP for preparation for Milestone B. The Independent Verification and Validation (IV&V) of 29 Evaluation Criteria is being conducted by NSA's independent Office of Corporate Assessments' Test and Technical Evaluation element (TTE). The Early Operational Assessment and Operational Assessment will be performed by JITC, which had established a presence in TRAILBLAZER spaces by November 2003. Results of both activities will be provided to the Milestone Decision Authority before Milestone B.

(C) **Target Date of completion:** Results of the independent assessment of THINTHREAD and TRAILBLAZER TDP will be provided to the MDA by Milestone B, currently scheduled for December 2004.

(C) DoD OIG Recommendation B.3: Include THINTHREAD in the TRAILBLAZER Analysis of Alternatives required for Milestone B. Revised p.35

(U) NSA Response: Concur

(U) TRAILBLAZER plans to include the results of the independent assessment of THINTHREAD in the Analysis of Alternatives required for Milestone B.

(U//FOUO) Target Date of completion: This action will be completed by the Milestone B target date, currently scheduled for December 2004.

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(b)(3)-50 USC 3024(i)

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(U//~~FOUO~~) Project No. D2003AL-0160

(U) Comments on DoD IG Audit of Requirements for the TRAILBLAZER and THINTHREAD Systems
Project No. D2003AL-0160

(U//~~FOUO~~) The following comments address technical and editorial items of concern in the subject Project Report.

1. ~~(S//SI)~~ The Executive Summary's statement that TRAILBLAZER development "wasted hundreds of millions of dollars" is not accurate. As the NTA Modernization Study observed, TRAILBLAZER is not only about digital network exploitation, but also encompasses cultural transformation (people, processes, and policies) and [redacted] And, although TRAILBLAZER is currently in the developmental phase, it has already delivered significant capabilities, such as:

[redacted]

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(U//FOUO) Project No. D2003AL-0100

[redacted]

2. (C) TRAILBLAZER also questions the Executive Summary's statement that "NSA modified or suppressed studies and comparisons that favored THINTHREAD over TRAILBLAZER." TRAILBLAZER has seen no evidence of either modification or suppression. It is not clear where this statement originated.

3. (S//SI) The OIG Report's citations of the [redacted] THINTHREAD Technical Review (February 2001) and the [redacted] THINTHREAD Follow-up for D/DIR (March 2001) were also incomplete and contained inaccuracies. The presentation of the results of the February review on page 13 of the OIG Report was only a subset of the total recommendations and findings. For example, although this study (commissioned by the Chief of the Mission Applications Group, not the D/DIR as stated in the OIG Report) recommended adoption of THINTHREAD's [redacted]

[redacted]

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(b)(3)-50 USC 3024(i)

(U//~~FOUO~~) Project No. D2003AL-0180

[redacted]

- o <u>Provide requested resources to the THINTHREAD team (dollars and people)</u>
- o <u>Provide THINTHREAD project management support</u>
- o <u>In light of this, not</u> all <u>of the</u> [redacted] <u>system is</u> required

(~~S//SI~~) The follow-up technical review (March 2001), requested by D/DIR, also stated that both the THINTHREAD and TRAILBLAZER approaches were of value. It recommended deployment of TRAILBLAZER's P&E incrementally in advance of the [redacted] although the Appendices are far more accurate than the references contained in the body of the Report.

4. (U//~~FOUO~~) It should be noted that Initial Operating Capability of the TRAILBLAZER Objective Program is FY2006, rather than FY2009 (as stated in page 1 of the Draft OIG report). Finally, the NSA IG concerns about the Program Engineering and Business Management contract mentioned in Appendix A did not center on TRAILBLAZER-specific practices but rather those of the SIGINT Programs Front Office. These issues have since been addressed by NSA management.

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(U//FOUO) Project No. D2003AL-0100

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NATIONAL SECURITY AGENCY
FORT GEORGE G. MEADE, MARYLAND 20755-6000

11 February 2005

MEMORANDUM FOR DEPUTY ASSISTANT INSPECTOR GENERAL FOR INTELLIGENCE AUDITS

SUBJECT: (U//~~FOUO~~) DoD OIG Audit Report Requirements for the TRAILBLAZER and THINTHREAD Systems, dated December 15, 2004 (Report 05-INTEL-03, Project No. D2003AL-0100) – INFORMATION MEMORANDUM

(U//~~FOUO~~) In response to the DoD OIG request for additional information on the TRAILBLAZER and THINTHREAD report, NSA/CSS provides consolidated corporate comments from our Signals Intelligence Directorate, Acquisition Organization, and Information Technology Infrastructure Services Organization (now the Information Technology Directorate).

NSA/CSS Response:

~~(C)~~ The Program Executive Officer (PEO) for NSA Transformational Programs is committed to funding the timely completion of the requested assessment of THINTHREAD applicability to the TRAILBLAZER Technology Demonstration Platform and ensuring the results of the assessment are considered in the preparation and conduct of TRAILBLAZER Milestone B (MS B). Consistent with duties and responsibilities of the PEO, the independence of the assessment is assured. The appropriateness of incorporating THINTHREAD as an option for meeting the [redacted] requirements for TRAILBLAZER TDP and subsequent incorporation into the TRAILBLAZER Analysis of Alternatives will be determined by the PEO at the completion of the assessment.

~~(C)~~ Subsequent to the DoD OIG report, the TRAILBLAZER Milestone has been scheduled for late in the fourth quarter of FY05 from the previously scheduled earlier MS B. Accordingly, this now allows sufficient time for the conduct of the assessment recommended by the DoD OIG. As costs for the assessment will be covered by the PEO, and due to the revised schedule, risk to the TRAILBLAZER program is minimal. Therefore, a Risk Mitigation Plan is not appropriate. The assessment will be finalized by May 2005.

If you have any questions or need additional information, please contact [redacted]

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Maria N. O'Connor

MARIA N. O'CONNOR
Chief of Staff

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